

NOTES ON THE GENUS *MORPHO* (LEPIDOPTERA: MORPHIDAE)  
COLLECTED IN THE SANTA MARTA MOUNTAINS,  
COLOMBIA, SOUTH AMERICA

MAYUMI TAKAHASHI

11-13-5, Kitaandô, Shizuoka-shi, Shizuoka-ken

The Morphidae are the family found in the Neotropical Region, and include only one genus *Morpho*. Fruhstorfer (1924) recognized 2 subgenera and 30 species within the genus. After that, le Moult (1962) subdivided the genus into 8 subgenera and recognized 80 species, but there are some questions in his classification.

The author reports the data and some ecological notes on 2 species of the genus *Morpho*, which were collected and observed by the 1st Scientific Expedition of Shizuoka University to the Colombian Andes, 1967. These specimens have been preserved in the Faculty of Science, Shizuoka University, except for 1 specimen of *Morpho rhodopteron rhodopteron* Godman & Salvin in the National Museum of Science, Tokyo.

The author thanks the late Taro Iwase, Dr. Kôroku Negishi, and Mr. Morio Wakabayashi, for offering him conveniences of investigating literature. Acknowledgements are also due to the kindness of Dr. Ryûichi Tsuchi and Mr. Takeshi Sugimoto who helped him through the butterfly survey in that expedition, and to Mr. Horst Müller who offered a valuable specimen of *Morpho rhodopteron schultzei* le Moult for the butterfly collection of Shizuoka University.

1. *Morpho rhodopteron* Godman & Salvin

This species is one of the endemic species of the Santa Marta Mountains, Sierra Nevada de Santa Marta, the northern part of Colombia.

Le Moult (1962) divided *Morpho rhodopteron* into 2 species, *Morpho rhodopteron* and *M. schultzei* by the differences in the wing shape, the wing coloration and the structure of the male genitalia. But the author could not discover any specific differences between both species by investigating these characters of the collected materials. Then, the author treats here these 2 species as the subspecies of *Morpho rhodopteron*.

The male of the two subspecies are distinguished by the coloration of the wing upperside. One subspecies *rhodopteron* has the pale blue coloration of the wing upperside, and the eyespots of the wing underside are seen through the semi-transparent wing membrane. The other *schultzei* has the deep blue coloration of the wing upperside and the eyespots of the wing underside are not seen from the dorsal surface.

Judging from the obtained data, the subspecies *rhodopteron* is distributed at least in the south-eastern part of the Santa Marta Mountains and the subspecies *schultzei* in the north-western part of the mountains.

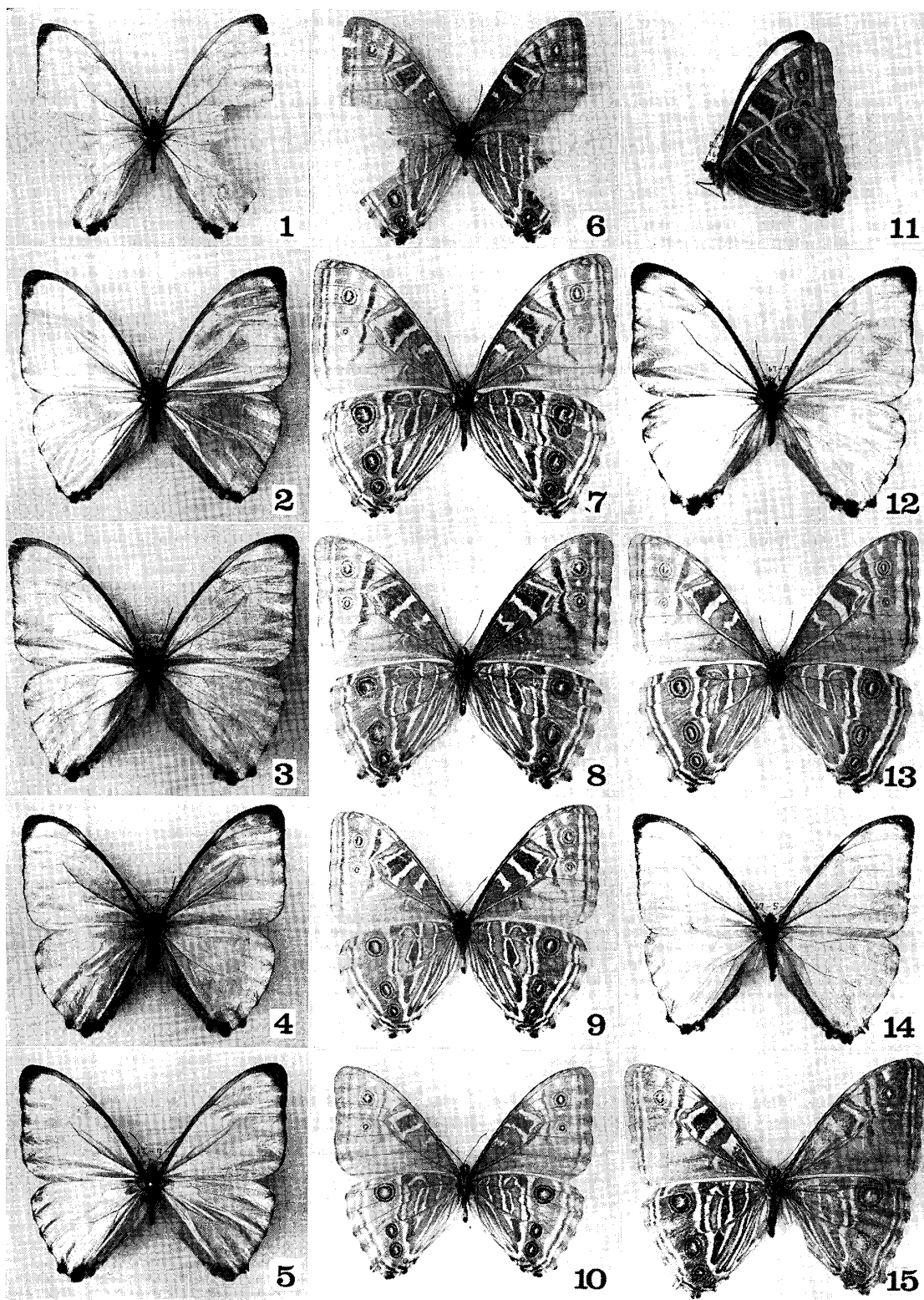
1a. *Morpho rhodopteron rhodopteron* Godman & Salvin

The author observed the butterflies in the evergreen forest along Donachui River (Rio Donachûi), 1600-2100 m in altitude, the southeastern part of the Santa Marta Mountains, from the end of June to the beginning of July. Many males were observed flying gently with irregular rhythm, through the certain pass way usually keeping the height of 2-20 m above the ground. The author collected 3 or 4 males by the use of decoy. The dead body of the male put on the ground with its wings spread, attracted flying males by reflecting the sun light with the brilliant wing upperside. The method was very effective to collect the males of this butterfly.

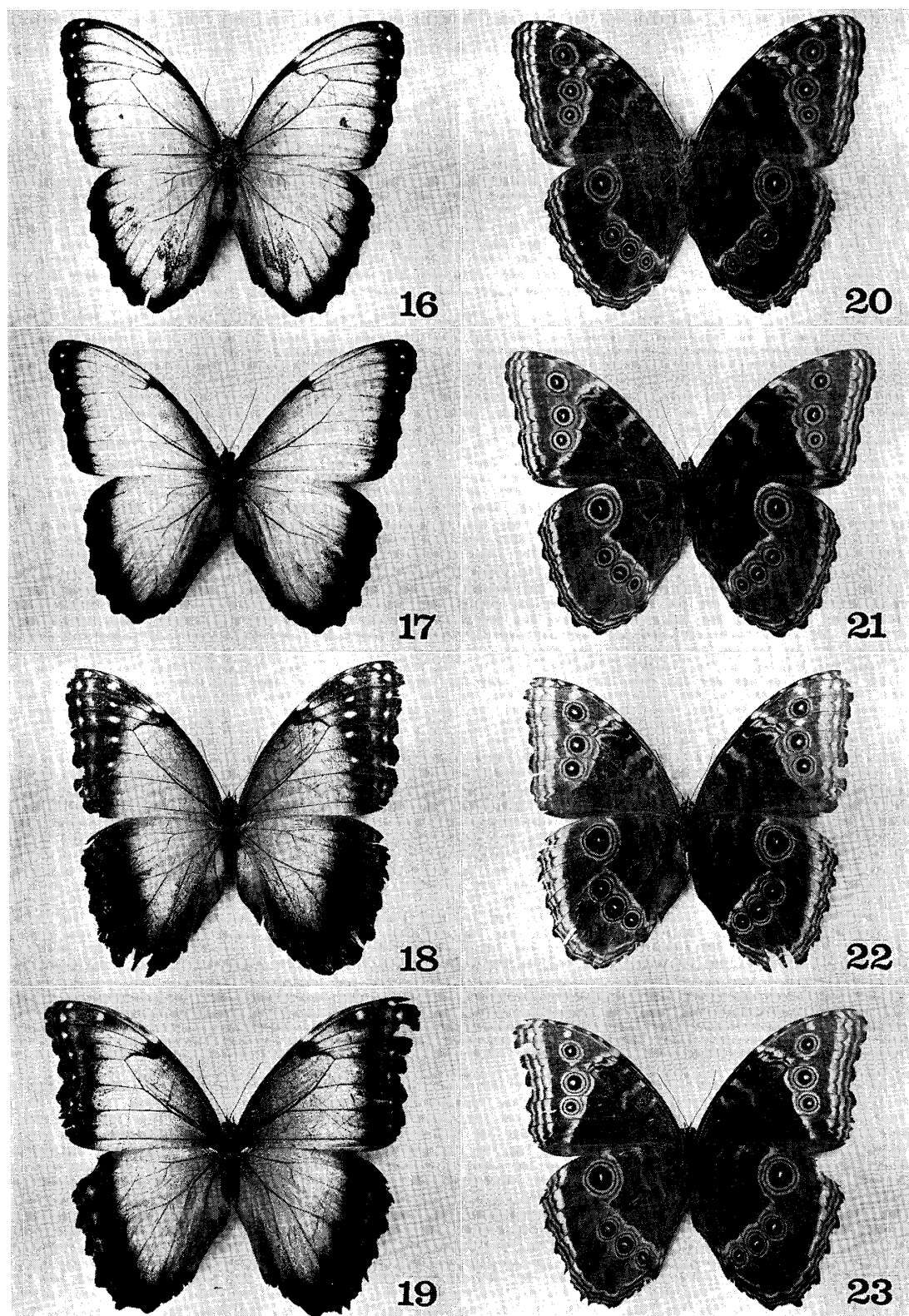
At near Sogrome, 1700 m in altitude, an ovipositing female was observed, which was laying eggs on the twig of an evergreen dicotyledonous plant (undetermined), more than 10 m in height above the ground, bending its abdomen, then its wings were closed. It took at least 30 minutes in oviposition, in which the female would compose a mass of eggs.

One specimen which was collected at Sogrome on the 28th of June has broken wings (fig. 1). It appeared to be attacked by a predator, such as, a bird or a lizard, while resting with its wings closed.

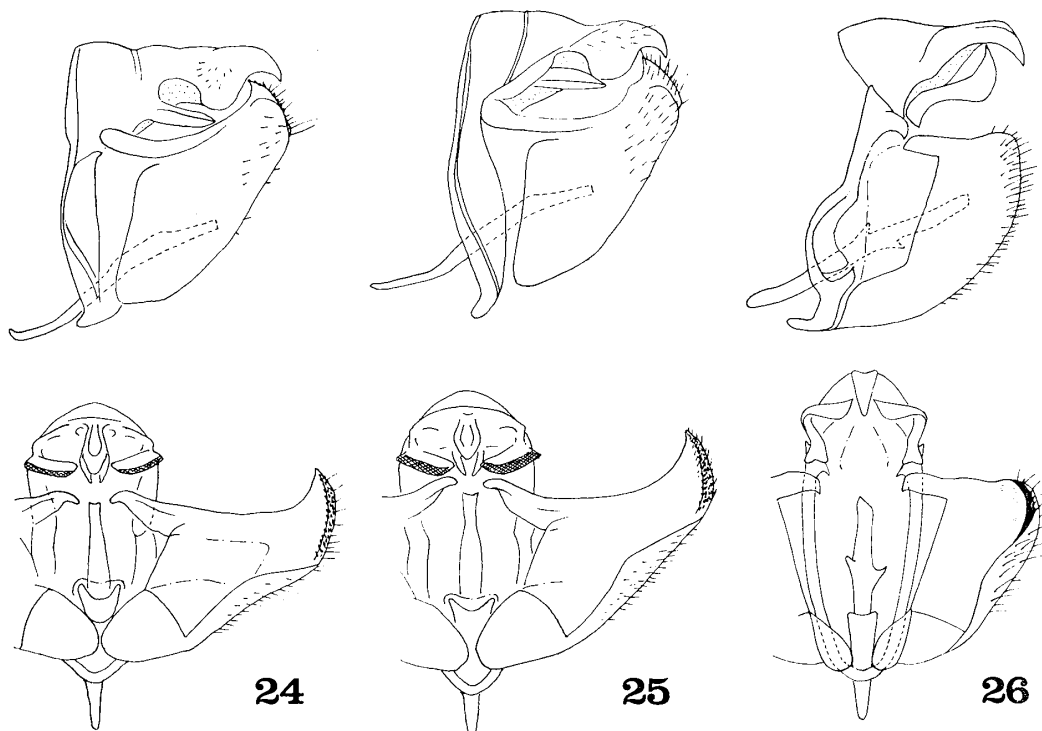
According to le Moult (1962), the locality of *Morpho rhodopteron*, Sierra Nevada (Venezuela), which was recorded by Fruhstorfer (1924), is incorrect, and this species is always obtained in San José de Santa Marta. It may be a village situated at the south-west of Valledupar (Dpto. Magdalena), the south-eastern foot of the Santa Marta



Figs. 1–15. *Morpho* spp., (6–11, 13, 15) underside: (1, 6) *M. rhodopteron rhodopteron* Godman & Salvin, ♂, Sogrome, June 28, FL (forewing length) 49.0 mm; (2, 7) ditto, Sogrome—Sacaracungüé, July 2, FL 58.1 mm; (3, 8) ditto, same data, FL 57.6 mm; (4, 9) ditto, same data, FL 47.3 mm; (5, 10) ditto, same data, FL 51.9 mm; (11) ditto, same data, FL 52.0 mm; (12–13) *M. r. schultzei* le Moults, ♂, Quebrada Malabrigo, July 15, FL 57.8 mm; (14–15) ditto, Minca, May 9, FL 54.9 mm.



Figs. 16–23. *Morpho* spp., (20–23) underside: (16, 20) *M. peleides peleides* Kollar, ♂, El Carmen, Aug. 25, FL (forewing length) 65.1 mm; (17, 21) ditto, near Quebrada Malabrigo, July 13, FL 67.1 mm; (18, 22) ditto, ♀, near El Mico, Sept. 5, FL 71.2 mm; (19, 23) ditto, same data, 72.1 mm.



Figs. 24-26. *Morpho* spp., male genitalia, (upper) lateral and (under) ventral view: (24) *M. rhodopteron rhodopteron* Godman & Salvin, Sogrome—Sacaracungüe; (25) *M. r. schultzei* le Moult, Minca; (26) *M. peleides peleides* Kollar, Quebrada Cinto.

Mountains. The author presumes that the real locality is in the mountainous area near that village.

1♂, Sogrome (1600 m) Río Donachúi, Magdalena, June 28, M. Takahashi; 6♂♂, Sogrome—Sacaracungüe (1700-1900 m), Río Donachúi, Magdalena, July 2, M. Takahashi; 2-3♂♂, (only witnessed) Sacaracungüe—La Nevadita (2100 m) Río Donachúi, Magdalena, July 1, M. Takahashi.

#### 1b. *Morpho rhodopteron schultzei* le Moult

The author collected only 1 male at the stream of Malabrigo, 1400 m in altitude, near San Lorenzo, the north-western slope of the Santa Marta Mountains, on the 15th of July. It was observed to fly keeping high position above the ground as well as the subspecies *rhodopteron* in Donachúi district. Two or 3 males were observed at that point. The specimen collected by the author is one settled on a leaf in the rainy weather, then its wings were closed. It was very sensitive and kept its head away by changing the settling position when he approached to it. Such a behaviour was also observed in *Caligo eurilochus galba* Deyrolle (Brassolidae). Another specimen was collected by Mr. Horst Müller at Minca, 600 m in altitude, also near San Lorenzo, on the 9th of May, 1967. Moreover, the author witnessed a flying male estimated to be *M. rhodopteron schultzei* le Moult near El Mico, about 650 m in altitude, on the western slope of the Santa Marta Mountains, on the 5th of September.

According to le Moult (1962), "*Morpho schultzei*" is sometimes obtained at Pueblo Viejo de Santa Marta, a village near Ciénaga Grande de Santa Marta, in June and September. In the locality, the dry climate prevails and the vegetation is too poor for that butterfly to live. The author presumes that the real locality is on the north-western slope of the Santa Marta Mountains, more than 10 km east of the village.

1♂, Quebrada Malabrigo (1400 m), near San Lorenzo, Magdalena, July 15, M. Takahashi; 1♂, Minca (600 m) near San Lorenzo, Magdalena, May 9, H. Müller; 1♂ (only witnessed), near El Mico (650m), Magdalena, Sept. 5, M. Takahashi.

## 2. *Morpho peleides peleides* Kollar

*Morpho peleides*, treated by Fruhstorfer in Seitz (1924), occurs in Central America and the northern part of South America. Le Moult (1962) split it into the following 7 species: *M. montezuma* Guérin, *M. hyacinthus* Butler,

*M. marinita* Butler, *M. octavia* Bates, *M. peleus* Röber, *M. peleides* Kollar and *M. corydon* Guérin. However, there are some questions in his classification, and I am inclined to think that these species are conspecific, as treated by Fruhstorfer (1924).

*Morpho peleides* is the most common species of the genus in the tropical region of the Santa Marta Mountains. It inhabits the humid evergreen forest of the region. The adults appear in the sunny forestside and sometimes fly through the woods. Its flight is vigorous and swift comparatively. The author observed, when the sun went behind the cloud and the temperature fell down, flying adults resting on leaves with its wings closed. The males were seen flying through the pass way in their habitat. The author observed several individuals visiting together fermented mangos fallen on the ground in the forest area of Cinto stream, near Caribbean Sea, and El Mico, the western slope of the Santa Marta Mountains.

1♂, Cincinati (1200 m), near San Lorenzo, Magdalena, July 10, M. Takahashi; 2♂♂, Quebrada Malabrigo (1400–1500 m), San Lorenzo, Magdalena, July 13, T. Sugimoto & M. Takahashi; 1♂, Loma El Medio (450 m), Río Piedras, Magdalena, July 30, M. Takahashi; 1♂, Quebrada Manzanares (150 m), Río Piedras, Magdalena, July 31, M. Takahashi; 8♂♂, Quebrada Cinto (150–200 m), near Río Piedras, Magdalena, Aug. 2, M. Takahashi; 2♂♂, San Isidro de la Sierra (500 m), Río Piedras, Magdalena, Aug. 22, T. Sugimoto & M. Takahashi; 1♂, San Isidro de la Sierra (500 m), Río Piedras, Magdalena, Aug. 24, M. Takahashi; 1♂, El Carmen (600 m), near Río Piedras, Magdalena, Aug. 25, M. Takahashi; 3 ♂♂, 2 ♀♀, El Mico–El Limón (900 m), Magdalena, Sept. 5, M. Takahashi; 1 ♀, El Mico–El Limón (900 m), Magdalena, Sept. 6, M. Takahashi.

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### Resumen

Se publican los datos y unas notas ecológicas de dos especies del género *Morpho*, Morphidae, coleccionadas en Sierra Nevada de Santa Marta, el Departamento del Magdalena, Colombia, América del Sur, por la Expedición Científica a los Andes Colombianos de la Universidad de Shizuoka, 1967.

*Morpho rhodopteron* Godamn & Salvin es la especie endémica de Sierra Nevada de Santa Marta. Dos sub-especies, *Morpho rhodopteron rhodopteron* Godman & Salvin y *M. r. schultzei* le Moult se encuentran en las montañas. La primera fue encontrada en la parte del sureste y la segunda en el noroeste de las montañas.

*Morpho peleides peleides* Kollar es común en los bosques húmedos tropicales de las montañas.

### 要 約

南米コロンビアのサンタ・マルタ山群において、2種の *Morpho* を記録し、そのさい若干の観察を行なった。

*Morpho rhodopteron* はこの山群の固有種で、海拔600～2100 mの山岳地帯にみられる。le Moultはこの種を、*M. rhodopteron* と *M. schultzei* に分割したが、これらはたがいに別種ではなく、すくなくとも、前者はこの山群の東南部に、後者は西北部に分布する亜種と考えられる。*M. peleides peleides* は、この山群の熱帯地域に比較的普通にみられ、マンゴーの落果などに集まるのが観察された。